

ABSTRACT

A pressure vessel of the present invention is such that at least part thereof comprises a metallic composite material 40 comprising a light metal 41, which is turned into a matrix, and a plate-shaped iron-based member 42, which is buried in the light metal 41, whose major component is iron, and which is provided with a large number of through holes penetrating the front and rear surfaces. By means of this construction, it is possible to provide a pressure vessel having a novel construction whose pressure resistance is enhanced without being accompanied by thickening, and a compressor being provided with a housing comprising the pressure vessel.

Moreover, a casting process of the present invention is a casting process, which is suitable for producing cylinder blocks, and is characterized in that, in a casting mold 80 being provided with hollow portions (86, 87) forming a molding cavity surface 84, and a pouring passage 85 which is communicated with the hollow portions, a substantially cylindrical iron-based member 42 having cut-offs 45 at the opened end portions is allocated so that the opened end portions are brought into contact with the molding cavity surface 84 and spaces 86, 87 are provided on the front- and rear-surface sides of the iron-based member 42, and a light-metal molten metal 41' is filled into the entire hollow portions through the pouring passage 85 via the cut-offs 45, thereby casting the light metal 41 around the iron-based-member 42.

(Selected Drawing: Fig. 4A)